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## ABSTRACT

Assessment thus far has been shaped primarily by questions about student learning outcomes; however, assessment "behind outcomes" means looking more carefully at the processes and conditions that lead to improved student learning. Nine areas of inquiry for assessment "behind outcomes" are suggested, with appropriate methods for addressing them and resources for further work: (1) What do we know about students who enter our institution? (2) How are course-taking patterns related to outcomes? (3) How do students experience the institution? (4) What is the student's contribution to learning? (5) What do students learn over time in a program of study? (6) How do out-of-class experiences contribute to learning? (7) What are students able to do with what they know? (8) What patterns characterize students' movement through the institution? (9) What judgments can students make about their learning? Six principles of assessment are drawn from these areas and discussed; these principles concern looking beyond outcomes to: college goals and programs; student attitudes and values; the department or program as a context for assessment; communicating and using complex, qualitative information; being governed by what is good for students; and a broader involvement of people across the institution in assessment. (KM)

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BEHIND OUTCOMES: CONTEXTS AND QUESTIONS FOR ASSESSMENT  
by Pat Hutchings

a resource paper from  
THE AAHE ASSESSMENT FORUM

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Assessment thus far has been shaped primarily by questions about student learning outcomes. There are reasons for this focus: attention to outcomes counters long reliance on resources and reputation as tests of quality, and outcomes as benchmarks for what graduates know and can do are the natural concern of both policymakers (whose mandates often drive assessment) and educators. Nevertheless, the promise of assessment--mandated or otherwise--is improved student learning, and improvement requires attention not only to final results but to how results occur. Assessment "behind outcomes" means looking more carefully at the processes and conditions that lead to the learning we care about.

Based on campus experiences, this paper suggests and explicates nine areas of inquiry for assessment that gets behind outcomes, with appropriate methods for addressing them and resources for further work.

1. What do we know about students who enter our institution?
2. How are course-taking patterns related to outcomes?
3. How do students experience the institution?
4. What is the student's contribution to learning?
5. What do students learn over time in a program of study?
6. How do out-of-class experiences contribute to learning?
7. What are students able to do with what they know?
8. What patterns characterize students' movement through the institution?
9. What judgments can students make about their learning?

The paper concludes with six larger principles relevant to assessment efforts by academic and student-affairs faculty working to improve student learning and development.

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## PREFACE

In October, 1988, the AAHE Assessment Forum, in cooperation with the American College Personnel Association and the National Association of Student Personnel Administrators, produced a national videoconference, "Assessing Student Learning and Development: A Shared Responsibility." Panelists called for assessment that looks "behind outcomes" to provide "the fullest, most useful information possible"; they spoke of methods that tell us what kinds of learning particular students achieve under particular conditions.

What would such assessment look like? How might a campus begin such work? In response to viewer requests for further information, the Forum took a next step, assembling, on January 3-4, 1989, a group of eight academic and student-development educators to explore more comprehensive, process-oriented approaches to assessment. They came at the subject from a range of perspectives but shared two key assumptions: that learning occurs in a context, under conditions that are particular and in many ways shapable, and that improvement means knowing more about those conditions. This paper, while not intended as a summary of the group's discussion, is informed by insights and experience that came forward there.

The Forum thanks these individuals for their contributions and careful thought at that January meeting:

Willard F. Enteman, Provost, Rhode Island College  
T. Dary Erwin, Director of Student Assessment, James Madison University  
Gary R. Hanson, Coordinator of Research, Office of Admissions, University of Texas at Austin  
Phoebe Helm, Associate Vice President for Internal Academic Affairs, Triton College  
L. Lee Knefelkamp, Academic Dean, Macalester College  
Elizabeth M. Nuss, Executive Director, National Association of Student Personnel Administrators  
Charles C. Schroeder, Vice President for Student Development, Saint Louis University

Representing the Forum were Theodore J. Marchese, Vice President, American Association for Higher Education, and Pat Hutchings, Director, AAHE Assessment Forum. Support for this project comes from the Fund for the Improvement of Postsecondary Education.

The need for a more comprehensive view of the tasks of assessment has become increasingly evident. It is needed, first, because the current focus on outcomes often misses the mark when it comes to improvement. The significance of outcomes --and their implications for improvement--depends on context: being able to lay final effects up against information about where students started and what happened to them along the way, about the match between student expectations and institutional intentions. Information about outcomes alone does little to suggest which educational processes are responsible for those outcomes, and little, therefore, about how to make improvements.

Secondly, assessment focused solely on outcomes may miss what many campus practitioners are finding most valuable about assessment: new, richer conversations about educational purposes and processes. A faculty member in a large research university reports that it was only in the context of assessment (in her case state-mandated) that "department members actually sat down and talked with each other about what they do with students in their classes." At its best, assessment raises and illuminates practical, day-by-day questions about teaching and learning: What do we expect our students to know and be able to do? What do we do in our classes to promote the kinds of learning we seek? What texts do we, collectively, teach, and how do we choose them? What expectations and goals do students bring to our classes? What motivates them? Which students would benefit from which classroom teaching strategies? Does the student's experience in my class relate to what happens in yours? How can we help students make connections between classroom learning and experiences outside the classroom?

These questions lead to a third perspective: not only is a focus on outcomes too narrow, but assessment needs a broader conception of learning. For decades, teachers and researchers alike have been aware that intellectual development is significantly affected by aspects of personal development; the cognitive and affective domains, far from being neatly separable, influence each other and develop (or don't) in connected ways. Given this circumstance, assessment aimed only at final outcomes of an intellectual character necessarily falls short. It leaves too many important areas for growth, too many sources of potential learning, unexamined. The first and unique purpose of a college is indeed intellectual development, but to understand that development one needs a broader view of the whole student and of the college experience.

This paper, then, argues for an expanded view of assessment--one that continues the emphasis on outcomes but strives to get behind them, to understand how they come about. Getting behind outcomes implies two departures from early assessment practice: greater attention to matters along the way, in order to know more about which students learn what under what conditions; and a broader focus, directed not only at academic achievement but at aspects of student growth and development. The approach implies, too, a move toward assessment that actively involves academic and student-affairs educators alike.

A metaphor may be suggestive. Assessment, as it's envisioned in this paper, looks less like a graduation snapshot than it does like a movie: "scenes" from the student's college experience, behavior and achievement over time, seen in multiple settings and contexts, from various points of view, sorted out and interpreted by thoughtful, involved audiences--including students themselves.

## NEW QUESTIONS FOR FULLER ANSWERS

Turning assessment from a snapshot to a movie means looking more closely at a wide range of student learning and development, over time, in various settings; it means increased attention to campus climate, in class and out. But which of the many dimensions of this broad scene should assessment focus on? Which questions are most fruitful? Which methods will help answer those questions and which are most do-able? What will lead most directly to improvements for students?

What follows are nine suggestions for pushing ahead with assessment "behind outcomes."

### 1. What do we know about the students who enter our institution?

Information about entering students--individually and as a group--is essential to making sense of outcomes down the line. Without it, there's little context for interpreting or judging the amount and quality of learning that subsequently occurs, and little prospect for improvement.

Just as important, however, and more immediately, knowing students at entry can lead to better course design, more accurate placement, more effective advising and support services--and, as a result, better conditions for teaching and learning.

What kinds of information are at issue here? Nothing very fancy: demographic data, records from high school and other previous preparation, statements written for admission, ACT/SAT scores, results from placement exams, and so on. In fact, much of this information is already routinely gathered; it's here and there, in various offices, managed by people who may or may not see its relevance to improving learning. In many institutions, then, a first step is to find out where that information is located and how to bring the important pieces together to begin constructing a bigger, more suggestive picture for faculty, advisors, and students themselves.

Knowing what information is and is not already collected may also suggest further points of inquiry: What is known about the student's goals and expectations? What perceptions does she have of herself as a learner? What are her assumptions about college, and what does she think she'll be doing as a college student? How about after college? Is she anxious? Does she have a place to study? Does she hold a job off campus? Answers to questions like these point toward ways to be more helpful to individual students; in the aggregate, they may suggest ways to make freshman-year programs and services more responsive to realities.

The value of focusing assessment on such questions is highlighted by a project now underway at Rhode Island College, where, for the past two years, entering students have received a "Personal Learning Plan" to help them chart their course through college. A detailed questionnaire, completed prior to registration, asks students about goals and expectations (what grades do you hope to attain? how many hours a week will you study?), life style and support systems (do you live at home/in an apartment/on-campus? does your mother/father/spouse... support your educational aspirations?), and other learning-related issues. Results from the questionnaire, along with more routine information from the admissions office, placement exams and personal interviews, are translated into a detailed, individual advising document. (ACT-COMP results were included in an early version but dropped because they provided too little feedback helpful to students.) The Personal Learning Plan advises students about course load, time management, areas of academic strength and weakness, needs for assistance, course selection, and student activities.

To provide all students with detailed, diagnostic advising, on paper, in the first weeks of the semester--and to get them to use it--is a daunting prospect. The Personal Learning Plan remains in a pilot stage, with important questions (about costs

and benefits, for example) still ahead. Nevertheless, it's an approach that suggests the power of assessment focused more purposefully on students at entry: gathering more and better information, assembling it in a meaningful way, and using it to help students take responsibility for their learning. The benefits are both immediate and down the road where outcomes occur.

Resources:

1. For information about assessment and advisement of students at Rhode Island College, contact:

Patricia Soellner Younce  
Rhode Island College  
600 Mount Pleasant Avenue  
Providence, RI 02908

2. The Student Potential Program of the Council for Adult and Experiential Learning (also in use at Rhode Island College) entails alternative methods for gathering information about students at entry. Structured interviews provide information for institutional decision making while moving individual students toward goals of self-assessment. For information, contact:

Kathleen Chernus  
Director of the Student Potential Program  
Council for Adult and Experiential Learning  
10840 Little Patuxent Parkway  
Suite 203  
Columbia, MD 21044

3. Institutional data on entering students, as individuals or as a group, may take on additional meaning when laid against broader trends reported by the Cooperative Institutional Research Program. For reports on the CIRP annual freshman survey contact:

The Cooperative Institutional Research Program  
University of California, Los Angeles  
320 Moore Hall  
405 Hilgard Avenue  
Los Angeles, CA 90024-1521

## 2. How do student course-taking patterns relate to outcomes?

Getting behind outcomes means understanding how students moved toward them: it implies looking at what courses they took (and didn't), in what combinations, at what points, how they did in them, and to what effect. How do students travel through the twists and turns of curricular options? Do part-time and transfer students follow different routes? What patterns can be discerned? What gaps and problem points? Are students graduating without ever taking a history course? Is there, by virtue of courses chosen, a more common general-education core than distribution requirements suggest? Do we like the way it looks? Are there relationships between course-taking patterns and retention? Levels of achievement? Outcomes?

These questions are much in the air today. The U.S. Department of Education's Office of Educational Research and Improvement is several years into a large-scale transcript analysis project (PETS, the Postsecondary Education Transcript Sample). It is also funding a project that involves a sample of 1500 students from five institutions, to develop methods of transcript analysis and assessment that can describe the effects of different coursework patterns on the general learned abilities of college students. A recently released monograph from the Association of American Colleges, Structure and Coherence, wades into similar waters. Based on transcripts from thirty-five diverse institutions, its author, Robert Zemsky, analyzes student choices across the curriculum and offers preliminary statistical conclusions about the state of the undergraduate curriculum nationally; he presents a method for describing the shape of the "real" curriculum on individual campuses.

These ambitious, large-scale projects explore important new ground about the impacts of course-taking patterns, but more modest, local approaches may be useful, too. On many campuses the major is a locus of current assessment effort. Departments

might do well, as part of a larger set of methods, to look at student course-taking patterns. One scenario might be an afternoon department meeting where fifty transcripts get passed around the table and discussed by faculty. Do successful psychology majors take more math than those who encounter difficulties or change majors? Are English majors graduating without ever reading Shakespeare? Are upper-level courses founded on false assumptions about courses taken during the freshman and sophomore year?

A next step might be a more focused evaluation of student work in light of courses taken. Faculty might work together to rate student papers from a senior seminar, then lay the results against information about which students took what routes into that seminar. Such an exercise would raise interesting--and difficult--questions about departmental course sequencing; it also focuses faculty attention on learning beyond their own classroom, on the "what does it all add up to" question that lies behind powerful assessment.

The point, then, of focusing assessment on student course-taking patterns is not just to find the glitch and fix it, but to look more systematically at how students move through the curriculum. We learn something about the effectiveness of a program by assessing student outcomes; we learn how a program works by relating those outcomes to patterns of study that led to them.

#### Resources:

1. A report on the Postsecondary Education Transcript Sample will be available this winter ('89-'90). For copies and further information, contact:

Clifford Adelman  
Senior Associate  
U.S. Department of Education  
Office of Educational Research and Improvement  
555 New Jersey Avenue, NW  
Washington, DC 20208

2. Findings from the five-institution transcript analysis study are available from:

James Ratcliff  
Director, Center for the Study of Higher Education  
The Pennsylvania State University  
133 Willard Building  
University Park, PA 16802

3. Copies of the AAC report, Structure and Coherence: Measuring the Undergraduate Curriculum are \$10, from:

Publications Desk  
Association of American Colleges  
1818 R. Street, NW  
Washington, DC 20009

4. Also see Jonathan Warren, "Cognitive Measures in Assessing Learning," in Implementing Outcomes Assessment: Promise and Pitfalls," ed. Trudy Banta, New Directions for Institutional Research, #59, Jossey-Bass, Fall, 1988. Warren explores the possibility of using course exams and routine faculty observation of students to generate a larger, more systematic view of student learning in academic departments, particularly in clusters of courses that overlap in their objectives.

### 3. How do students experience and understand the institution?

Knowing who our students are and what courses they take goes some distance toward a clearer picture of how we can improve what we do for them. But we want to understand, as well, what it means, from a student point of view, to be a student at this institution, enrolled in these classes, with these fellow students, these faculty. What works and what doesn't? What, in the student's opinion, promotes learning? What hinders it?

Many campuses are now using assessment as an occasion to explore the student experience of the institution. Some construct their own surveys; many adopt an available commercial instrument (ACT and ETS both offer one) and add local questions.

Some survey not only current students but alumni. A particularly useful instrument is C. Robert Pace's College Student Experiences Questionnaire (CSEQ), which asks students about their experience with courses, co-curricular activities, faculty, and each other. The CSEQ now comes with norms and is newly available in a community college form.

Methods that move beyond "customer satisfaction" to get at student understandings of their learning are particularly helpful. One might, for instance, ask students how one course builds on another. What connections can they see and articulate? Can they (and do they) apply what they learn in class to a family or work situation? Do they think their instructors pay attention to "real-world" applications? How do they see themselves changing as a result of the college experience?

Surveys are an economical way to gather some of this information, in standard ways, over time. An alternative, more probing method for understanding student experience is the interview. They're labor-intensive and don't yield neat, summary data, but interviews have several virtues.

For one, a carefully designed and conducted interview can provide rich, contextual data about who learns what under which conditions (this, again, the "behind outcomes" objective). Interviewing can also be a powerful experience for the interviewer: the University of Maryland at College Park undertook a massive longitudinal study, employing one-on-one interviews, in part (and successfully) as a staff-development project. Very importantly, interviews are good for students--involving, an occasion for reflection, and a way for students to get signals about institutional values and expectations. (The late Joseph Katz once commented that the single best thing an institution could do for students was to have a faculty member sit with them for an hour and discuss their learning.)

Examples of campuses using interviews now abound. Faculty in a FIPSE-funded consortium of Appalachian colleges interview

students to assess the effects of general education; they and students alike report that the experience is "different," eye-opening, a chance for students to interact with faculty about their learning in a new and powerful way. As part of a larger institutional assessment effort, Alverno College began interviewing students in 1976, following them from the freshman year through graduation and five years after, focusing on abilities, learning and personal growth. Rhode Island College employs one-on-one interviews in conjunction with its Personal Learning Plan effort, an experience students report as a highlight of their first semester, an opportunity to reflect on themselves and to understand strengths and weaknesses in a way they seldom have. It makes them feel special, they say; it tells them the college cares about them.

The argument here is not that every campus should do interviews. It is, once again, that clearer, deeper understandings of the student's educational experience are a prerequisite to improving outcomes.

Resources:

1. For information about the College Student Experiences Questionnaire, contact:

C. Robert Pace  
Center for the Study of Evaluation  
UCLA Graduate School of Education  
Los Angeles, CA 90024-1521

2. For information about the Maryland Longitudinal Study, contact:

Janet Schmidt  
Assistant to the Vice President for Research  
2108 Mitchell Building  
University of Maryland, College Park  
College Park, MD 20742

3. For information about assessment programs that include interview methods, contact:

Karen Carey  
Director of the Appalachian College Assessment Consortium

Department of Education, Policy Studies, and Evaluation  
University of Kentucky  
144 Taylor Education Building  
Lexington, KY 40506-0001

Marcia Mentkowski  
Director of Research and Evaluation  
Alverno College  
3401 S. 39th Street  
Milwaukee, WI 53215

4. What is the student's contribution to learning?

What (and how well) students learn is a function of a college's teaching, curricula, and broader campus culture; but it's also significantly a function of student effort.

To assess learning outcomes without taking into account the student's responsibility for and contribution to those outcomes is to ignore key questions. What expectations, goals, and motivation do students bring to their college work? How do they spend their time? How many hours a week do they study, and how do they allocate those hours? How much do they use the library, and for what purpose? Do they seek out help when they're falling behind? How often, out of class, do they talk with a faculty member? How often do they talk with other students about classwork or books they've read? Do they try to apply what they learn outside the classroom?

Questions about student effort clearly cross over into those from the previous category--the student experience. And many of the same methods are appropriate. The College Student Experiences Questionnaire asks questions relevant to effort, motivation, and use of time. Surveys and interviews are pertinent, as are more indirect methods, such as recording student attendance at cultural events, monitoring library use, and the like.

Trickier than concerns about how to gather such data are those of using them. Faced with a finding that full-time students study six hours a week (a Massachusetts state college

learned this when it asked students how they spend their time), what do faculty do? Cut back on homework? Lower expectations? "No," and "maybe," are probably the answers here, but the larger point is that knowing more about what students bring to their studies has implications for how we teach, organize curricula, conduct orientation, and, most of all, for how we talk with students about our expectations and their involvement. For many of today's first-generation college students, the "givens" of academe are not given at all. Knowing that students study only a few hours a week, we need to tell them, as clearly and explicitly as possible, that "a careful reading of this chapter will take you four hours," that "writing this paper means writing three drafts and turning it in on time." Being more explicit about expectations and "criteria" is, in fact, a central motif in the most successful campus assessment programs.

Student effort and motivation is a complex subject, but it's a promising focus for assessment, one that sidesteps a variety of political threats (will the information be used to evaluate faculty?) and methodological problems (is instrument X or Y valid for our program?) while putting an issue squarely on the table. At the least, data on student effort can do what assessment does best: start and inform an essential conversation.

Resource:

1. For a full review of research and instruments relevant to this topic, see Sandra Graham, "Indications of Motivation in College Students," in Performance and Judgment: Essays on Principles and Practice in the Assessment of College Student Learning, edited by Clifford Adelman, 1988, available from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402 (stock #065-000-00342-2; \$15).

5. How does learning progress, over time, in a given program of study?

In assessment's earlier days, a lot of attention went to the value-added model of assessment. There's a right idea behind that model--that college effectiveness is not a matter simply of outcomes but of student growth, of documented learning over time, distance covered. Unfortunately, value-added came, in many cases, to mean two snap-shots taken with a standardized instrument: before and after, pre- and post-test, with little attention to the experiences in between or to explanation. But, as colleges are coming to see, to improve academic growth over time one needs fuller, more continuous information.

Both as a metaphor for how to think about assessment and as a method, a suggestive notion here is the portfolio: an assembly and analysis of student work done over time--an archive, if you will, through which questions about learning can be framed and explored. Unlike standardized tests, with their machine-reported scores, portfolios put explicit emphasis on human judgment and meaning making.

The most familiar version of portfolio assessment focuses on writing: samples of student writing over time, presumably from a variety of disciplines and for a range of audiences. But the concept of a portfolio becomes more suggestive when thought of not simply as a folder of student papers but as an archive of work of various kinds and in various formats, assembled from class (and perhaps out-of-class) activities, publicly documenting academic growth. One might, for instance, compile from work done in various contexts a portfolio of critical-thinking "documents": papers from a history class, a chemistry lab notebook, videotapes of performances for the college debate team, memoranda prepared at an internship site, and so on.

Somewhat surprisingly, given the resources necessary for the task, more and more campuses are experimenting with portfolio assessment. SUNY College at Fredonia is pilot-testing portfolios

as part of a larger assessment of its General College Program. At entrance, students submit an essay on their "history as a learner." This first portfolio entry provides a context for freshman advising and also sets in motion a process whereby students collect work that documents next chapters in that history. The final piece of the portfolio, completed in the senior year, is the student's own evaluation of his growth in the General College Program, looking particularly at relationships among General-College courses and the major. Goals of the portfolio are to heighten students' consciousness of their own learning processes and to help them develop a thoughtful, goal-oriented involvement in their studies.

Alverno College, too, employs portfolios, and for similar purposes. Its Assessment Center maintains an archive of each student's work that includes a videotape of speeches, beginning with one at entry and concluding with an upper-level, extemporaneous speech on a concept in her major field; samples of writing at various stages and from various courses; the student's self-assessment and extensive written feedback from external assessors (mostly professionals from the community) of several assessment-center simulations; and other samplings of work, all grist for final narrative transcripts written by departmental faculty for each of their majors.

One of the most-watched portfolio approaches to assessment may be that at The College of William and Mary. Like all Virginia public institutions, in Spring of 1987 the college found itself faced with a state mandate--a quite open-ended one, giving institutions considerable latitude about what and how to assess, but calling as well for "methods that yield quantifiable, not merely anecdotal results." William and Mary resisted the prospect of an off-the-shelf standardized test (a quick route to quantitative data) and developed instead a plan based on portfolio assessment. Virginia's State Council of Higher Education approved that proposal, and the campus is now at work

on implementation--work that may lead to new, much-needed ways to give outside, public audiences a fuller, more accurate account of outcomes and the processes behind them.

Portfolios aren't quickly or cheaply done; nor do they yield neat, bottom-line data. They do offer several benefits. First, their very unwieldiness makes them less subject to misuse than apparently simpler, single-score methods. Second, the act of compiling the portfolio is almost always educational for students; it's hard to imagine a more powerful assignment than asking students to go back over their work of several years, to sort and cull and finally select items (the best and worst) for a portfolio, and to analyze that assembly for patterns, strengths and weakness, implied next steps....Third, portfolio methods lend themselves to "co-assessment," to discussion among interested parties, including the student herself, about the quality of the work and its implications. One can imagine, for instance, a conference between a student--let us say a second-semester junior majoring in psychology--her departmental advisor, a faculty member from her support area in philosophy, and the director of student services with whom she's been working on a peer-advising project. The portfolio--and the student's analysis of the work included in it--is the prompt for a conference, whose real point then becomes in-depth feedback and a talking through of next steps, future areas of study, and options following graduation.

#### Resources:

1. For information about assessment programs employing portfolio methods, contact:

Minda Rae Amiran  
Dean for Special Programs and General Studies  
SUNY College at Fredonia  
Fredonia, NY 14063

Georgine Loacker  
Chair, Assessment Council  
Alverno College  
3401 S. 39th Street  
Milwaukee, WI 53215

Sylvia H. Scholnick  
Assistant to the Provost for Assessment  
The College of William and Mary  
Williamsburg, VA 23185

6. How do students' out-of-class experiences contribute to (or impede) their learning?

In 1984 a National Institute of Education commission on the "conditions of excellence" called for (and entitled its report) "Involvement in Learning." At issue, among other things, were the ways students spend out-of-class time and the extent to which they enter into campus intellectual life; recommendations included strengthening out-of-class activities "that have academic functions or academic overtones: debate teams, language clubs, publications, performance groups, political clubs, and international exchange groups" (p.35). Today, more and more campuses--and some state mandates as well--are calling for assessment of out-of-class experiences and dimensions of student growth that transcend course-based conceptions of learning.

Student-development educators have a long tradition of assessment that looks beyond the classroom (and behind outcomes), and it is often in student-affairs offices that one finds information on the broader impacts of the college on students: data on stages of development, for example, or on student values, personal orientation, and maturation. Today's assessment movement presents the occasion to bring this work to bear more systematically on the improvement of student learning.

The "out-of-class" is a broad topic for assessment; where should one start? One obvious focus is the personal-development aspects of the institution's mission. Many college catalogs, for example, posit values that students are to develop--civic or religious, most typically--or state as objectives various perspectives, awarenesses, attitudes, sensibilities, or dispositions...the sources for which would be both in and out of

class. A variety of techniques are available for the study of such goals, ranging from standardized batteries and focused interviews to observation studies and student self-report.

A second focus might be the co-curriculum, in whole or part, college-sponsored (clubs, sports, public events) or informal (that which students create for themselves). The questions here are familiar: To what extent are students involved with out-of-class campus life? How does such involvement relate to in-class performance or later success? What abilities and values do the co-curriculum seem to advance? In whom? Are those values congruent with the college's goals and curricular intents? In the name of assessment various colleges have examined Greek systems, student TV viewing, and off-campus work; several are looking at student-faculty interaction out of class, and activity participation rates over time; one university did an ethnographic study of freshman dorm life (with dismaying findings).

A third point here is less a new topic than a perspective and a reminder, that in applying the techniques and answering the questions of other sections of this paper, the learning/growth, cognitive/affective, in-class/out-of-class nexus be kept in mind. So, for example, should departmental faculty elect to interview graduating students about experiences in the major, their questions might include attention to the values she perceives were taught (and learned) in departmental classrooms. Portfolio assessment can illuminate not only growth of knowledge and abilities, but more personal, affective areas of development such as creativity, persistence, and initiative.

What's at issue here again is assessment that looks at the whole student and the full college experience. Learning doesn't occur in a vacuum, and to improve it we need to look beyond the classroom--and beyond narrow conceptions of learning.

**Resources:**

1. For a possible framework for assessment, see the "Involving College Inventory," based on a study of fourteen colleges and universities that promote high-quality, out-of-class experiences. Contact:

George D. Kuh  
Professor and Director  
College Experience Study  
School of Education  
Indiana University Bloomington  
Bryan Hall  
Bloomington, Indiana 47405

2. For information about assessing student-development outcomes, see Gary R. Hanson, ed., Measuring Student Development, New Directions for Student Services, #20, Jossey-Bass, 1982. More recently (Spring, 1989) Hanson completed a report for the New Jersey Department of Higher Education, "The Assessment of Student Development Outcomes: A Review and Critique of Assessment Instruments." Copies are available from:

The Director  
College Outcomes Evaluation Program  
Department of Higher Education  
20 West State Street  
Trenton, NJ 08625

3. See T. Dary Erwin, "New Opportunities: How Student Affairs Can Contribute to Student Assessment," in Student Services: A Handbook for the Profession, ed. U. Delworth and G. Hanson, Jossey-Bass, 1989.

4. Commission Nine of the American College Personnel Association coordinates a variety of work on "assessment for student development," including workshops and a clearing house. For information, contact:

David White  
Office of Residence Services  
202 Steele Hall  
Syracuse University  
Syracuse, NY 13244

5. The role of student affairs in the development and implementation of campus assessment programs is also a focus of a 1987-88 "Student Outcomes Assessment Survey," available from:

National Association of Student Personnel Administrators  
Division of Research and Program Development  
1700 18th Street, NW, Suite 301  
Washington, DC 20009-7500

7. What are students able to do with what they know?

The outcomes many educators and policymakers care most about have to do with what students can do with what they know, with how well they can put the pieces together and apply knowledge in new situations.

This is a concern many "outcome measures" miss. Standardized tests in particular tend to look at learning in terms of discrete pieces of knowledge (as "items"), and tend consequently to be weak predictors of performance in the work world. But beyond needs for predictive measures of outcome, the larger need here is for assessment that a) coincides with a view of learning that encompasses both knowing and doing, b) connects with and enables such learning during the college years, and c) is in itself educative. That need describes "performance-based" assessment.

Performance assessment is less a single method than a way of thinking about learning; it has to do with developing in students abilities to comprehend, connect, and apply. In a community-college automotive technology program, for example, quite specific knowledge components and diagnostic/repair abilities are the objective; instructors bring these together over the semesters in a sequence of practical exercises designed for feedback to students. At two years' end, there may indeed be a summative, culminating project for students to accomplish, one final test of "knowledge in action," but it has been preceded and set up by a consistent pattern of instruction along the way. In effect, the connections between teaching and assessment become

seamless: teaching entails assessment, the assessment teaches.

One more example: instruction in the arts has always been performance-based. The tradition in music, studio art, and theater and dance of the culminating, senior-level recital, exhibit, or performance (these are public, juried, and rich in feedback to the student) represents assessment of the highest form: consistent with instruction and in itself instructive--for both the student and faculty.

Moving to situations where the objective is to assure end-of-program professional competence and readiness for practice, performance-based assessment becomes the method of choice. Here college faculties are learning from corporate and governmental counterparts (who've been at these questions since the 1940s) about the "assessment center" method. The assessment center is less a place than a process that attempts to identify the components of professional effectiveness, then observe their development in candidates through a series of carefully structured, juried exercises. The Teacher Assessment Project at Stanford offers a much-watched example. Researchers there are designing assessment-center methods for teacher certification. Candidates participating in the several-day experience will engage in a number of "real world" simulations--critiquing curricula, designing lesson plans, teaching in various class situations--with their performance observed and judged by expert teachers. Parallel efforts exist in medical education, nursing, business, architecture, and a variety of other professional and preprofessional fields.

Parenthetically, research demonstrates the superiority of the assessment center over other methods in predicting future performance in a wide range of work settings. Not surprisingly, too, the candidates who do better in assessment-center exercises are those who aren't seeing them for the first time, whose prior learning has attended to the knowing-doing nexus. Indeed, many educators who push end-of-study performance assessment hope that

its tie to licensing and certification (which makes it matter to students and therefore to their teachers) will in time nudge underlying patterns of instruction toward greater attention to application and doing.

Outside the professions, in the liberal arts, examples of performance assessment become scarce. What might it mean to apply concepts of "performance" to learning in history or philosophy? Most campuses have yet to ask the question. At Alverno College, though, faculty have experimented with the concept for fifteen years. Within classes and at key points in the Alverno program, students participate in simulations that draw on knowledge from completed coursework and require its integration and application. Near the end of their sophomore year, for example, students participate in a day-long simulation in which they act as a citizens' advisory committee to a local library confronted with a censorship issue. In the course of the day they engage in group problem-solving, individual writing tasks, and extemporaneous speaking; they bring to bear what they've learned about artistic form, their own values, even education itself. Their performance is observed and described to them by external assessors and by other students, and they must self-assess. The effect for virtually all students is a new, critical awareness of self and of their learning.

Done over time, then, performance assessment becomes a powerful adjunct to the teaching and learning process. It provides a faculty with rich information about how well students are able to integrate and apply knowledge, and a look at "softer" but important learning in areas such as creativity, persistence, empathy, and personal values. Most important (once more), the assessment-center and related experiences look behind outcomes to learning processes that are inherently involving and educational for students.

**Resources:**

1. For more information about the Teacher Assessment Project, contact:

Lee S. Shulman  
Charles Ducommun Professor of Education  
or  
Angelo Collins  
Assistant Professor of Education and Project Director  
Teacher Assessment Project  
Stanford University  
Stanford, CA 94305

2. In Performance and Judgment (cited earlier), see William C. Byham, "Using the Assessment Center Method to Measure Life Competencies" and Stephen Dunbar, "States of Art in the Science of Writing and Other Performance Assessments."

3. A number of major assessments at Alverno College employ assessment-center methods. Contact:

Georgine Loacker  
Chair, Assessment Council  
Alverno College  
3401 S. 39th Street  
Milwaukee, WI 53215

4. Those interested in exploring assessment-center methods more broadly (in business and industry as well as educational settings), may be interested in the International Congress on the Assessment Center Method, an annual conference sponsored by Development Dimensions International, P. O. Box 13379, Pittsburgh, PA 15243.

8. What broad patterns characterize our students' movement through the institution?

A fact brought to light by assessment is that many campuses have no systematic way to track student movement through the institution: How many graduate? In what length of time? Who leaves and where do they go? What patterns characterize the persistence of women or returning students? Information about how students, as groups and individuals, progress (or don't) is,

once again, essential to getting behind outcomes.

Concerns about retention naturally fuel an interest in these matters, and many campuses have established a "longitudinal data base" or "integrated student information system" for purposes of tracking (and maximizing) enrollment. Understanding and improving student learning, however, means developing a somewhat different system, one that addresses not only broad-scale administrative or management questions but educational questions about student attainment.

Toward such a system, a first step may be to think carefully about what questions it should address and therefore about what kinds of information to collect. Academic and student-development faculty in particular, but also administrators, librarians, and computing specialists need to work together to formulate questions and concerns the database should address. This wider participation not only produces better guidelines for data collection, but reinforces stake-holding and the likelihood that data will be brought to bear in solving problems.

Another principle for building an information system comes from corporate findings that decentralized systems can be the most useful to decision making and quality improvement. That is, the need may be not for one massive, centralized data system with a central data manager, but for various parties to be able to get their hands on data that will answer their own questions when they need the answers. The provost at Rhode Island College wants to determine if students who are required to use their Personal Learning Plans with advisors are retained in greater numbers than those who are not. As part of a curriculum review, the chair of the physics department wants to check course-taking patterns in the sophomore and junior year against student success in a final, integrating seminar. As a faculty member in English, I want to call up on the computer relevant records for a student in trouble in my British literature class.

Examples of information systems organized around student learning are just starting to appear. A number of institutions - James Madison University, for one--are now putting in place systems that will make accessible to various parties--from a provost with large-scale questions about retention, to faculty with concerns about individual students--integrated, longitudinal information about key events in students' progress through the institution. To do so is an ambitious, long-term undertaking that may draw from a wide array of otherwise-scattered information: from the admissions office, ACT/SAT scores, high school coursework and grades, placement test information, etc; from the student development office, results from a student descriptive questionnaire, student transcript information, measures of maturity, self-concept, identity, moral development, and career interest; from housing, information about living arrangement, roommate, etc; from financial aid, family income, job skills, and work record. The breadth and availability of information like this is a critical tool for addressing questions of student learning and the conditions that foster it.

An interesting, related effort has been underway at Saint Louis University for the past five years. In Project TRAILS (Tracking Retention and Academic Integration by Learning Styles), the Office of Student Life Studies gathers a variety of information about students: Myers-Briggs scores, aptitude test results, initial choice of a program of study, and each semester's grades. The information has been useful for administrative and enrollment-management purposes, but it has also been brought to bear on more academic concerns. Nursing faculty, for example, were concerned about the gap between what they were teaching and what students were (and weren't) learning; a look at the learning-style profile of departmental faculty versus that of typical nursing students helped the department understand the problem and address it more thoughtfully.

**Resources:**

1. For information about student information systems, contact:

T. Dary Erwin  
Director of Student Assessment  
James Madison University  
Harrisonburg, VA 22807

2. For further information about the TRAILS project, contact:

David H. Kalsbeek  
Assistant Vice President for Student Development  
Saint Louis University  
221 North Grand Boulevard  
Saint Louis, MO 63103

3. Assistance with establishing a student information system is available from:

National Center for Higher Education Management Systems  
P. O. Drawer P  
Boulder, CO 80302

**9. What judgments are students able to make about their own learning?**

Research shows that students who are self-conscious about themselves as learners learn more. Teachers know this from experience: students who understand their own process as writers can repeat their successes; those who can figure out that they study better with a group are steps ahead. What this implies is that assessment should be not only of (and for) students, but by them.

Work at Alverno College is suggestive; there, a focus on the student's ability to self-assess begins at entry. With a curriculum organized around eight outcomes (communications, analysis, problem solving, aesthetic response, etc.), Alverno faculty naturally want to know as much as possible about each student's beginning-level effectiveness in those areas; but because of a commitment to independent learning, they also want to know about and encourage student reflectiveness about their

own knowledge and abilities.

Thus, to assess the ability to "speak on one's feet," Alverno asks entering students to prepare and deliver (and have videotaped) a short speech on the question, Should applicants be screened or should college be open to anyone to wants to try? Following a workshop which introduces the concept and strategies of self-assessment, the student sits down with a trained assessor to watch and critique the videotape of her performance. The focus is on the student's understanding of her own work and the charting of a course for improvement--courses to be taken, opportunities to practice, and so forth. This process is repeated many times over four years until the ability to self-assess becomes a refined habit.

This is a single, brief example, but its point is clear. Mechanisms can be found (self-assessment is but one) to involve students in assessment, to provide useful feedback, to help students themselves get behind outcomes, to understand and take charge of their own learning. The goal here is simple and by now familiar: that in the name of assessing learning, learning occurs.

#### Resources:

1. Self-assessment is a central theme at the School for New Learning, De Paul University. For an account of work there, see "Self-Assessment: Essential Skills for Adult Learners," by David Justice and Catherine Marienau, in Knowing and Doing: Learning from Experience, ed. P. Hutchings and A. Wutzdorff, New Directions in Teaching and Learning, #35, Fall, 1988.

2. For further information about Alverno College's work in self-assessment, contact:

Georgine Loacker  
Chair, Assessment Council  
Alverno College  
3401 S. 39th Street  
Milwaukee, WI 53215

## THEMES AND IMPLICATIONS

The nine questions above often overlap. Running through them are six larger points.

1. Outcomes are not enough. That is, we need to lay what we learn about outcomes up against what we know about the goals and programs of the college, including the character of its curriculum, teaching, and out-of-class life. Further, we need to know who our students are, about their goals and level of effort, and about how they experience the institution. The point is to get "behind outcomes" to the conditions of learning--to get information that will help improve those conditions.

2. Getting behind outcomes implies a broader focus for assessment, one that looks beyond narrowly conceived cognitive outcomes to the attitudes, values, and dispositions that necessarily undergird learning. Indeed, distinctions between the cognitive and affective, the in-class and out-of-class, are blurred in many of the outcomes we care most about: tolerance, creativity, abilities to solve problems and work with others....We need assessment predicated on a view of learning that is integrated and multi-dimensional.

3. An appropriate and powerful context for assessment is the department or program. Many of the questions we can productively ask about our impact on students (particularly in larger institutions) can be answered more sharply and suggestively at the departmental or program level than at the level of the entire campus, where information becomes too general, even rarified, to be very helpful. The department is also the setting in which a more integrated view of learning makes natural sense, where the line between what students know, what they can do, and what they believe is most intriguingly blurred, and where "good assessment"

(integrated, performance-based, rich in feedback) is closest to what good teaching has always been about.

4. Using assessment to get behind outcomes means that more people, using a wider variety of methods, will look at a broader range of concerns; it means a more complex array of information that will never lend itself to neat, bottom-line scores and reports. A next challenge in assessment is to find ways to communicate and use complex, qualitative information both inside and outside the institution. "Meaning-making" and dissemination strategies may be more important than how information is gathered.

5. Choices about what to assess and how to do so should be governed first and foremost by what's good for students. The best methods involve students in creating or improving conditions of learning and are in and of themselves educative. A corollary here is that such assessment will be done primarily by those who regularly work with students--academic and student-development faculty--and not by third-party experts.

6. A broader conception of the tasks of assessment means a broader involvement by people from across the institution. Assessment for improvement is not a one-office, data-gathering operation but a total institutional responsibility, an ultimate interdisciplinary challenge. Assessment issues are cross-cutting: in class and out, student effort and faculty teaching, student preparation and institutional expectation. To get the big picture in view we need teams of people representing diverse perspectives and expertise--faculty from various academic disciplines, student-development faculty and staff, admissions staff, advisors, administrators, students, and alumni. The goal of assessment is a mindset: that quality improvement is everybody's business.